



Metaverse: Virtual Meditation ☹

Siva Raja Sindiramutty, Noor Zaman Jhanjhi (/affiliate/noor-zaman-jhanjhi/415447/), Sayan Kumar Ray, Husin Jazri (/affiliate/husin-jazri/456412/), Navid Ali Khan, Loveleen Gaur (/affiliate/loveleen-gaur/456414/)

Source Title: Metaverse Applications for Intelligent Healthcare (/gateway/book/320471)

Copyright: © 2024

Pages: 66

ISBN13: 9781668498231|ISBN10: 1668498235|ISBN13: 9781668498248

DOI: 10.4018/978-1-6684-9823-1.ch003

Cite Chapter ▼

Favorite ★

[View Full Text HTML >](#)

[\(/gateway/chapter/full-text-html/334347\)](/gateway/chapter/full-text-html/334347)

[View Full Text PDF >](#)

[\(/gateway/chapter/full-text-pdf/334347\)](/gateway/chapter/full-text-pdf/334347)

Abstract

The rise of the metaverse as a digital domain for diverse activities has birthed an innovative application known as 'metaverse virtual meditation.' This concept seamlessly merges technology and mindfulness, employing virtual reality (VR) and augmented reality (AR) to craft serene digital landscapes. These immersive settings, ranging from natural vistas to abstract spaces, enable users to overcome physical constraints and distractions, facilitating mindfulness, stress reduction, and emotional resilience. The chapter navigates the fusion of technology and contemplative practices, from traditional meditation to modern VR and AR experiences. Stress reduction, heightened focus, and inclusivity are among the advantages highlighted. The convergence of visuals, biofeedback, brain-computer interfaces (BCIs), and AI-driven personalization is explored for tailored meditation. Design principles, interactive elements, and natural components play a crucial role in shaping tranquil virtual environments.

Request access from your librarian to read this chapter's full text.



1. Introduction To Metaverse Virtual Meditation

1.1 Definition and Concept of the Metaverse

The metaverse stands as a virtual realm encompassing interconnected digital spaces, enabling users to engage, communicate, and partake in activities through avatars and digital representations of themselves. It's a fusion of AR, VR, and the internet, resulting in a shared virtual space. This concept encapsulates an expansive virtual universe where people can interact socially, conduct economic transactions, pursue education, find entertainment, and more. As discussed by Uddin et al. (2023), the metaverse aims to seamlessly bridge the gap between the physical and digital realms, allowing users to navigate various virtual domains effortlessly.

An essential aspect of the metaverse is immersion, where users are deeply engrossed within the digital environment. This immersive encounter is accomplished through advanced technologies like VR headsets, haptic feedback systems, and spatial computing (Richter & Richter, 2023). By integrating these technologies, the metaverse provides an elevated sense of presence and interactivity. A crucial characteristic of the metaverse is its enduring nature. In contrast to conventional online platforms, the metaverse maintains its continuity, with virtual spaces persisting and evolving even when users log out (Jo, 2023). Interconnectedness is a foundational feature of the metaverse. Users can smoothly navigate between diverse virtual realms and spaces, encouraging cross-platform social interactions (Aljanabi, 2023). This interconnected nature facilitates a smooth exchange of information, assets, and experiences.

Moreover, the metaverse encourages user-generated content and personalization. Users possess the capability to generate, modify, and trade virtual assets, resulting in a thriving digital economy (Zhi et al., 2023). The metaverse's influence isn't limited to entertainment; it encompasses various sectors. In the realm of education, it provides immersive learning encounters through simulations and collaborative settings (Soni & Kaur, 2023; Shafiq et al., 2021). Concerning healthcare, it facilitates applications for telemedicine and medical training simulations (Suh et al., 2023; Zaman et al., 2022; Chatrati et al., 2022). Businesses are also delving into the metaverse for virtual conferences, product launches, and collaborative workspaces (Nagarajan, 2023).

In summation, the metaverse symbolizes a transformative digital domain that merges VR, AR, and the internet. It encourages immersion, interconnectedness, durability, and user-driven content generation. As technology progresses, the metaverse's potential applications across various domains are becoming increasingly apparent. Figure 1 and Figure 2 show the example of VR and AR devices.

Figure 1. VR device



(https://igiprodst.blob.core.windows.net:443/source-content/9781668498231_320471/978-1-6684-9823-1.ch003.f01.png?sv=2015-12-

[11&sr=c&sig=OotQ2MMkNMxxGQFeXX9EBE2Abykw5ir%2FA%2Fs%2BRyOqL34%3D&se=2024-10-28T17%3A13%3A09Z&sp=r](https://igiprodst.blob.core.windows.net:443/source-content/9781668498231_320471/978-1-6684-9823-1.ch003.f01.png?sv=2015-12-11&sr=c&sig=OotQ2MMkNMxxGQFeXX9EBE2Abykw5ir%2FA%2Fs%2BRyOqL34%3D&se=2024-10-28T17%3A13%3A09Z&sp=r)

DeGuzman (2021b)

[Continue Reading \(/gateway/chapter/full-text-html/334347\)](#)

References

- Follow Reference Adam S. Sohail I. Phuong L. N. (2023). Meditation, Geomedicine, and Anticipatory Cities: Emerging Issues and Visions of Futures without Non Communicable Diseases. *Journal of Futures Studies*, 27(3), 121–136. 10.6531/JFS.202303_27(3).0009
- Ahmed, A. S. R. a. S. H. S. H. T. T. (2023, July 7). *Find out the innovative techniques of data sharing using cryptography by systematic literature review*. Turcomat. <https://www.turcomat.org/index.php/turkbilmat/article/view/13953>
- Follow Reference Ahuja A. S. Polascik B. W. Doddapaneni D. Byrnes E. S. Sridhar J. (2023). The digital metaverse: Applications in artificial intelligence, medical education, and integrative health. *Integrative Medicine Research*, 12(1), 100917. 10.1016/j.imr.2022.10091736691642
- Follow Reference Alenizi B. A. Humayun M. Jhanjhi N. Z. (2021). Security and privacy issues in cloud computing. *Journal of Physics*, 1979(1), 012038. 10.1088/1742-6596/1979/1/012038
- Follow Reference Ali S. G. Wang X. Li P. Jung Y. Bi L. Kim J. Chen Y. Feng D. D. Thalmann N. M. Wang J. Sheng B. (2023). A systematic review: Virtual-reality-based techniques for human exercises and health improvement. *Frontiers in Public Health*, 11, 1143947. 10.3389/fpubh.2023.114394737033028
- Follow Reference Aljanabi, M. (2023). Metaverse: open possibilities. *ESJournal*. journal.esj.edu.iq (<http://journal.esj.edu.iq>). doi:10.52866/ijcsm.2023.02.03.007
- Follow Reference Almusaylim Z. A. Jhanjhi N. Z. (2019). Comprehensive Review: Privacy Protection of User in Location-Aware Services of Mobile Cloud Computing. *Wireless Personal Communications*, 111(1), 541–564. 10.1007/s11277-019-06872-3
- Follow Reference Almusaylim, Z. A., Jhanjhi, N. Z., & Jung, L. T. (2018). Proposing A Data Privacy Aware Protocol for Roadside Accident Video Reporting Service Using 5G In Vehicular Cloud Networks Environment. *2018 4th International Conference on Computer and Information Sciences (ICCOINS)*. doi:10.1109/iccoins.2018.8510588
- Follow Reference Ameta D. Garg A. Kumar P. Dutt V. (2023). Evaluating the Effectiveness of Mantra Meditation in a 360 Virtual Reality Environment. *ResearchGate*. 10.1145/3594806.3596587
- Anderson, F. C., Rabello Casali, K., Cunha, S. T., & Matheus, C. M. (2023). *Automatic Classification of Emotions Based on Cardiac Signals: A Systematic Literature Review*. Springer Link. <https://link.springer.com/article/10.1007/s10439-023-03341-8> (<https://link.springer.com/article/10.1007/s10439-023-03341-8>)

Angelos, E. (n.d.). *Mindfulness Misconceptions in Counselor Education and Supervision: Mitigating Vicarious Trauma among Counselors-in-Training*. DigitalCommons@SHU. <https://digitalcommons.sacredheart.edu/jcps/vol17/iss2/10/> (<https://digitalcommons.sacredheart.edu/jcps/vol17/iss2/10/>)

- Follow Reference Apicella A. Barbato S. Chacón L. B. D'Errico G. De Paolis L. T. Maffei L. Massaro P. Mastrati G. Moccaldi N. Pollastro A. Wriessenegger S. C. (2023). Electroencephalography correlates of fear of heights in a virtual reality environment. *Acta IMEKO*, 12(2), 1–7. 10.1014/actaimeko.v12i2.1457
- Follow Reference Arul P. Tahir M. (2023). The effect of social media on customer relationship management: A case of airline industry customers. *International Journal of Management & Entrepreneurship Research*, 5(6), 360–372. 10.51594/ijmer.v5i6.496
- Atud, V. (2023). *Reclaiming Focus In The Age Of Ai: Strategies For Deep Thinking In A Distracted Culture*. Sunburst Markets.
- Follow Reference Bahir, O. (2023). Online Training in Present-Day Conditions: Opportunities and Prospects. In *Arts, research, innovation and society* (pp. 193–212). doi:10.1007/978-3-031-24101-7_11
- Follow Reference Bai P. (2023). Application and mechanisms of Internet-Based Cognitive Behavioral Therapy (ICBT) in improving psychological state in cancer patients. *Journal of Cancer*, 14(11), 1981–2000. 10.7150/jca.8263237497400
- Banerji, S. (2023). Future of Well-being- The Metaverse Era. *OCAD University Open Research Repository*. <https://openresearch.ocadu.ca/id/eprint/4103> (<https://openresearch.ocadu.ca/id/eprint/4103>)
- Follow Reference Bhattacharya S. Hofmann S. G. (2023). Mindfulness-based interventions for anxiety and depression. *Clinics in Integrated Care*, 16, 100138. 10.1016/j.intcar.2023.100138
- Follow Reference Bhumika, N., Kaur, A., & Datta, P. (2023). Happiness through Metaverse: Health and Innovation Relationship. *2023 IEEE 12th International Conference on Communication Systems and Network Technologies (CSNT)*. doi:10.1109/csnt57126.2023.10134713
- Follow Reference Browning M. H. Shin S. Drong G. McAnirlin O. Gagnon R. J. Ranganathan S. Sindelar K. Hoptman D. Bratman G. N. Yuan S. Prabhu V. G. Heller W. (2023). Daily exposure to virtual nature reduces symptoms of anxiety in college students. *Scientific Reports*, 13(1), 1239. 10.1038/s41598-023-28070-936690698
- Follow Reference Campbell A. H. Barta K. Sawtelle M. Walters A. (2023). Progressive muscle relaxation, meditation, and mental practice-based interventions for the treatment of tremor after traumatic brain injury. *Physiotherapy Theory and Practice*, 1–17. 10.1080/09593985.2023.224350437551705
- Follow Reference Carrión C. (2023). Research streams and open challenges in the metaverse. *The Journal of Supercomputing*. 10.1007/s11227-023-05544-1
- Follow Reference Cennamo C. Dagnino G. B. Zhu F. (2023). *Research Handbook on Digital Strategy*. Edward Elgar Publishing. 10.4337/9781800378902
- Follow Reference Chae H. L. Seul C. L. (2023). The Effects of Degrees of Freedom and Field of View on Motion Sickness in a Virtual Reality Context. *Taylor's Ad Francis*. doi:10.1080/10447318.2023.2241620
- Follow Reference Chatrati, S. P., Hossain, G., Goyal, A., Bhan, A., Bhattacharya, S., Gaurav, D., & Tiwari, S. (2022). Smart home health monitoring system for predicting type 2 diabetes and hypertension. *Journal of King Saud University - Computer and Information Sciences*, 34(3), 862–870. doi: 10.1016/j.jksuci.2020.01.010
- Follow Reference Chauhan, M., & Agarwal, R. (2023). Impact of screens on how users think. *IEEE Conference P20233rd International Conference on Intelligent Technologies (CONIT)Ublication*. IEEE Xplore. 10.1109/CONIT59222.2023.10205565
- Follow Reference Chen Y. He H. Yang Y. (2023). Effects of Social Support on Professional Identity of Secondary Vocational Students major in Preschool Nursery Teacher Program: A Chain Mediating Model of Psychological Adjustment and School Belonging. *Sustainability*, 15(6), 5134. 10.3390/su15065134
- Follow Reference Chopra, R. (2023). *Online Religion*, 521–535. Wiley. doi:10.1002/9781119671619.ch33
- Follow Reference Chuanhua, Y. (2023). Using Cognitive Therapy to Explore the Potential Application of Traditional Therapy and Metaverse Therapy from a Cognitive Perspective. *SHS Web of Conferences*, 171, 01030. doi:10.1051/shsconf/202317101030
- Follow Reference Claisse C. Durrant A. (2023). 'Keeping our Faith Alive': Investigating Buddhism Practice during COVID-19 to Inform Design for the Online Community Practice of Faith. *ACM*. doi:10.1145/3544548.3581177
- Follow Reference Covaci A. Alhasan K. Loonker M. Farrell B. Tabbaa L. Ppali S. Ang C. S. (2023). No Pie in the (Digital) Sky: Co-Imagining the Food Metaverse. *ACM*. doi:10.1145/3544548.3581305
- Crawford, T. (2023). *Sonic Urban Exploration: Connections between disused urban environments and electroacoustic music composition*. SES. <https://ses.library.usyd.edu.au/handle/2123/31519>
- Damaris, A. (2023, July 4). *The Effect of Physical Activity on Mental Well-being among College Students*. *Cari Journals*. <https://carijournals.org/journals/index.php/ijars/article/view/1336>
- Follow Reference Davis J. Finlay-Jones A. Bear N. Prescott S. L. Silva D. Ohan J. L. (2023). Time-out for well-being: A mixed methods evaluation of attitudes and likelihood to engage in different types of online emotional well-being programmes in the perinatal period. *Women's Health (London, England)*, 19. 10.1177/1745505723118450737431205
- De Engenharia, F. (2023, July 25). *Instrument Position In Immersive Audio: A Study On Good Practices And Comparison With Stereo Approaches*. <https://repositorio-aberto.up.pt/handle/10216/152055> (<https://repositorio-aberto.up.pt/handle/10216/152055>)
- Follow Reference De Villiers Bosman I. Buruk O. T. Jørgensen K. Hamari J. (2023). The effect of audio on the experience in virtual reality: A scoping review. *Behaviour & Information Technology*, 1–35. 10.1080/0144929X.2022.2158371
- Degenhard, S. M. (n.d.). *Mobile phone mindfulness: Effects of app-based meditation intervention on stress and HRV of undergraduate students*. *UTC Scholar*. <https://scholar.utc.edu/mps/vol29/iss1/1/> (<https://scholar.utc.edu/mps/vol29/iss1/1/>)
- DeGuzman, K. (2021b). What is Virtual Reality — Games, Movies & Storytelling. *StudioBinder*. <https://www.studiobinder.com/blog/what-is-virtual-reality/> (<https://www.studiobinder.com/blog/what-is-virtual-reality/>)
- Follow Reference Demeco A. Zola L. Frizziero A. Martini C. Palumbo A. Foresti R. Buccino G. Cipolla C. (2023). Immersive Virtual Reality in Post-Stroke Rehabilitation: A Systematic Review. *Sensors (Basel)*, 23(3), 1712. 10.3390/s2303171236772757





- Follow Reference Dirin A. Nieminen M. Laine T. H. Nieminen L. Ghalabani L. (2023). Emotional contagion in Collaborative Virtual Reality Learning Experiences: An eSports approach. *Education and Information Technologies*. 10.1007/s10639-023-11769-7
- Follow Reference Dogra V. Verma S. Kavita K. Jhanjhi N. Z. Ghosh U. Le D. (2022). A comparative analysis of machine learning models for banking news extraction by multiclass classification with imbalanced datasets of financial news: Challenges and solutions. *International Journal of Interactive Multimedia and Artificial Intelligence*, 7(3), 10.9781/ijimai.2022.02.002
- Follow Reference Doronzo F. Nardacchione G. Di Muro E. (2023). Processi neuroplastici associati all'adozione della realtà virtuale: Una revisione sistematica verso un nuovo approccio del trattamento dei disturbi mentali. *IUL Research*, 4(7), 126–147. 10.57568/iulresearch.v4i7.411
- Follow Reference Dreher F. Ströbel T. (2023). How gamified online loyalty programs enable and facilitate value co-creation: A case study within a sports-related service context. *Journal of Service Theory and Practice*, 33(5), 671–696. 10.1108/JSTP-10-2022-0229
- Follow Reference Dreisoerner A. Ferrandina C. Schulz A. P. Nater U. M. Junker N. M. (2023). Using group-based interactive video conferencing to make self-compassion more accessible: A randomized controlled trial. *ScienceDirect*. 10.1016/j.jebs.2023.08.001
- Follow Reference Ekanjio, T. (2023). *Human-ai collaboration in everyday work-life practices: a coregulation perspective*. AIS Electronic Library (AISeL). https://aisel.aisnet.org/ecis2023_rp/213/ (https://aisel.aisnet.org/ecis2023_rp/213/)
- Follow Reference Eom S. Kim S. Jiang Y. Chen R. J. Roghanizad A. R. Rosenthal M. Z. Dunn J. Gorlatova M. (2023). Investigation of Thermal Perception and Emotional Response in Augmented Reality using Digital Biomarkers: A Pilot Study. In 2023 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW). IEEE. 10.1109/VRW58643.2023.00042
- Follow Reference Fazia T. Bubbico F. Nova A. Bruno S. Iozzi D. Calgan B. Caimi G. Terzaghi M. Manni R. Bernardinelli L. (2023). Beneficial Effects of an Online Mindfulness-Based Intervention on Sleep Quality in Italian Poor Sleepers during the COVID-19 Pandemic: A Randomized Trial. *International Journal of Environmental Research and Public Health*, 20(3), 2724. 10.3390/ijerph2003272436768089
- Follow Reference Fazia T. Bubbico F. Nova A. Buizza C. Cela H. Iozzi D. Calgan B. Maggi F. Floris V. Sutti I. Bruno S. Ghilardi A. Bernardinelli L. (2023). Improving stress management, anxiety, and mental well-being in medical students through an online Mindfulness-Based Intervention: A randomized study. *Scientific Reports*, 13(1), 8214. 10.1038/s41598-023-35483-z37217666
- Follow Reference Fernandes F. A. Werner C. M. L. (2023). A Scoping review of the metaverse for Software Engineering Education: Overview, Challenges, and opportunities. *Presence (Cambridge, Mass.)*, 1–40. 10.1162/pres_a_00371
- Follow Reference Furht B. (2011). *Handbook of Augmented Reality*. Springer Science & Business Media. 10.1007/978-1-4614-0064-6
- Follow Reference Gaertner R. J. Kossmann K. E. Benz A. Bentele U. U. Meier M. Denk B. Klink E. S. C. Dimitroff S. J. Pruessner J. C. (2023). Relaxing effects of virtual environments on the autonomic nervous system indicated by heart rate variability: A systematic review. *Journal of Environmental Psychology*, 88, 102035. 10.1016/j.jenvp.2023.102035
- Follow Reference Gagliardi E. Bernardini G. Quagliarini E. Schumacher M. Calvaresi D. (2023). Characterization and future perspectives of Virtual Reality Evacuation Drills for safe built environments: A Systematic Literature Review. *Safety Science*, 163, 106141. 10.1016/j.ssci.2023.106141
- Follow Reference Gao Q. Zhang L. (2023). Brief mindfulness meditation intervention improves attentional control of athletes in virtual reality shooting competition: Evidence from fNIRS and eye tracking. *Psychology of Sport and Exercise*, 102477. 10.1016/j.psychsport.2023.10247737665918
- Follow Reference Garfin D. R. Amador A. Osorio J. Ruivivar K. S. Torres A. Nyamathi A. (2023). Adaptation of a mindfulness-based intervention for trauma-exposed, unhoused women with substance use disorder. *Psychological Trauma: Theory, Research, Practice, and Policy*. 10.1037/tra000148637307346
- Follow Reference Gill S. H. Razzaq M. A. Ahmad M. Almansour F. M. Haq I. U. Jhanjhi N. Z. Alam M. Z. Masud M. (2022). Security and privacy aspects of cloud Computing: A Smart Campus case study. *Intelligent Automation and Soft Computing*, 31(1), 117–128. 10.32604/iasc.2022.016597
- Follow Reference Goldsworthy A. Chawla J. Birta J. Baumanna O. Gough S. (2023). Use of extended reality in sleep health, medicine, and research: A scoping review. *Sleep (Basel)*, zsad201. 10.1093/sleep/zsad20137498981
- Follow Reference Gulick, W. (2023). Polanyi, zen and non-linguistic knowledge. In *Comparative philosophy of religion* (pp. 91–106). 10.1007/978-3-031-18013-2_7
- Follow Reference Haley A. C. Thorpe D. Pelletier A. Yarosh S. Keefe D. F. (2023). Inward VR: Toward a qualitative method for investigating interoceptive awareness in VR. *IEEE Transactions on Visualization and Computer Graphics*, 29(5), 2557–2566. 10.1109/TVCG.2023.324707437027715
- Follow Reference Hamid, B., Jhanjhi, N. Z., Humayun, M., Khan, A. F., & Alsayat, A. (2019). Cyber Security Issues and Challenges for Smart Cities: A survey. *2019 13th International Conference on Mathematics, Actuarial Science, Computer Science and Statistics (MACS)*. 10.1109/macs48846.2019.9024768
- Follow Reference Han E. Miller M. R. DeVeaux C. Jun H. Nowak K. L. Hancock J. T. Ram N. Bailenson J. N. (2023). People, places, and time: A large-scale, longitudinal study of transformed avatars and environmental context in group interaction in the metaverse. *Journal of Computer-Mediated Communication*, 28(2), zmac031. 10.1093/jcmc/zmac031
- Follow Reference Harutyunyan, M. (2023). Exploring the Rich Tapestry of Gardens and Parks: A Journey through History, Education, and Artistic Expressions. *Harutyunyan | Indonesian Journal of Multidisciplinary Research*. 10.17509/ijomr.v3i2.60561
- Follow Reference Hasapeehko, A. (2023). *Marketing determinants of consumer behaviour change in the food market*. SUM DU. <https://essuir.sumdu.edu.ua/handle/123456789/92038>
- Follow Reference Heinrich D. O'Connell K. A. (2023). The effects of mindfulness meditation on nursing students' stress and anxiety levels. *Nursing Education Perspectives*. 10.1097/01.NEP.000000000000115937404039
- Follow Reference Hensher D. A. Mulley C. Nelson J. D. (2023). What is an ideal (Utopian) mobility as a service (MaaS) framework? A communication note. *Transportation Research Part A, Policy and Practice*, 172, 103675. 10.1016/j.tra.2023.103675
- Follow Reference Hillebrand K. Hornuf L. Müller B. Vrankar D. (2023). The social dilemma of big data: Donating personal data to promote social welfare. *Information and Organization*, 33(1), 100452. 10.1016/j.infoandorg.2023.100452

Follow Reference Holley R. Moldow E. Chaudhary S. Gaumond G. Hacker R. L. Kahn P. Boeldt D. Hubley S. (2022). A qualitative study of virtual reality and mindfulness for substance use disorders. *Journal of Technology in Behavioral Science*, 8(1), 36–46. 10.1007/s41347-022-00284-0

Follow Reference Hopkins J. L. Bardoel A. (2023). The future is hybrid: How organisations are designing and supporting sustainable hybrid work models in Post-Pandemic Australia. *Sustainability*, 15(4), 3086. 10.3390/su15043086

Follow Reference Huang, H., Li, Y., & Cai, S. (2023). Best Practices for Integrating 360 VR Videos into Psychology Teaching. *2023 9th International Conference on Virtual Reality (ICVR)*. 10.1109/icvr57957.2023.10169358

Follow Reference Humayun M. Jhanjhi N. Z. Alruwaili M. Amalathas S. S. Balasubramanian V. Selvaraj B. (2020). Privacy protection and energy optimization for 5G-Aided industrial internet of things. *IEEE Access : Practical Innovations, Open Solutions*, 8, 183665–183677. 10.1109/ACCESS.2020.3028764

Follow Reference Humayun M. Niazi M. Jhanjhi N. Z. Alshayeb M. Mahmood S. (2020). Cyber Security Threats and Vulnerabilities: A Systematic Mapping study. *Arabian Journal for Science and Engineering*, 45(4), 3171–3189. 10.1007/s13369-019-04319-2

Follow Reference Iloudi M. Lindner P. Ali L. Wallström S. Thunström A. O. Ioannou M. Anving N. Johansson V. Hamilton W. Falk Ö. Steingrímsson S. (2022). Physical Versus Virtual Reality-based Calm Rooms for Psychiatric Inpatients: A Quasi-randomized Trial (Preprint). *Journal of Medical Internet Research*. 10.2196/42365

Follow Reference Ingendoh R. M. Posny E. S. Heine A. (2023). Binaural beats to entrain the brain? A systematic review of the effects of binaural beat stimulation on brain oscillatory activity, and the implications for psychological research and intervention. *PLoS One*, 18(5), e0286023. 10.1371/journal.pone.0286023

Follow Reference Jerath, R., Syam, M., & Ahmed, S. Z. (2023). *The Future of Stress Management: Integration Smartwatches and HRV Technology*. 10.20944/preprints202307.1283.v2

Follow Reference Jhanjhi N. Z. Humayun M. Almuayqil S. N. (2021). Cyber security and privacy issues in industrial internet of things. *Computer Systems Science and Engineering*, 37(3), 361–380. 10.32604/csse.2021.015206

Follow Reference Jhuang Y. Yan Y. Horng G. (2023). GDPR Personal Privacy Security Mechanism for smart home system. *Electronics (Basel)*, 12(4), 831. 10.3390/electronics12040831

Follow Reference Jin, N., Wu, Y., Park, J., Qin, Z., & Li, Z. (2023). Brain-Metaverse Interaction for Anxiety Regulation. *2023 9th International Conference on Virtual Reality (ICVR)*. 10.1109/icvr57957.2023.10169785

Jo, H. (2023). Tourism in the digital frontier: a study on user continuance intention in the metaverse. *Springer Link*. <https://link.springer.com/article/10.1007/s40558-023-00257-w> (<https://link.springer.com/article/10.1007/s40558-023-00257-w>)

Follow Reference Jo, H., Seidel, L., Pahud, M., Sinclair, M., & Bianchi, A. (2023). *FlowAR: How Different Augmented Reality Visualizations of Online Fitness Videos Support Flow for At-Home Yoga Exercises*. *ACM*. 10.1145/3544548.3580897

Joshi, J. (2023, August 5). *PhysioKit: open-source, low-cost physiological computing toolkit for single and multi-user studies*. <https://arxiv.org/abs/2308.02756> (<https://arxiv.org/abs/2308.02756>)

Follow Reference Kaaria A. G. Mwaruta S. S. (2023). Mental Health Ingenuities and the Role of computer Technology on Employees' Mental Health: A Systematic review. *East African Journal of Health & Science*, 6(1), 219–231. 10.37284/eajhs.6.1.1268

Follow Reference Kaddoura S. Husseiny F. A. (2023). The rising trend of Metaverse in education: Challenges, opportunities, and ethical considerations. *PeerJ*, 9, e1252. 10.7717/peerj-cs.125237346578

Follow Reference Kahlmann V. Moor C. C. Van Helmond S. J. Mostard R. L. M. Van Der Lee M. Grutters J. C. Wijsenbeek M. Veltkamp M. (2023). Online mindfulness-based cognitive therapy for fatigue in patients with sarcoidosis (TIRED): A randomised controlled trial. *The Lancet. Respiratory Medicine*, 11(3), 265–272. 10.1016/S2213-2600(22)00387-336427515

Follow Reference Kaleva I. Riches S. (2023). Stepping inside the whispers and tingles: Multisensory virtual reality for enhanced relaxation and wellbeing. *Frontiers in Digital Health*, 5, 1212586. 10.3389/fdgh.2023.121258637534028

Follow Reference Kanwal N. Janssen E. M. Engan K. (2023). Balancing privacy and progress in artificial intelligence: Anonymization in histopathology for biomedical research and education. *Cornell University*. doi:10.48550/arxiv.2307.09426

Follow Reference Karthi, M., Alsager, M., Metha, R., & Nash, N. F. (2023). Digital Solution: Breaking the barriers to address stigma of mental health. In *IEEE EUROCON 2023 - 20th International Conference on Smart Technologies*. IEEE. 10.1109/EUROCON56442.2023.10198879

Follow Reference Khemchandani, V., Goswami, K., Teotia, M. P., Chandra, S., & Wadalkar, N. M. (2023). Virtual Reality Based Attention Simulator using EEG Signals. In *2023 2nd Edition of IEEE Delhi Section Flagship Conference (DELCON)*. IEEE. 10.1109/delcon57910.2023.10127358

Follow Reference Kim D. Y. Kim S. Y. (2023). Investigating the effect of customer-generated content on performance in online platform-based experience goods market. *Journal of Retailing and Consumer Services*, 74, 103409. 10.1016/j.jretconser.2023.103409

Follow Reference King, J., Halversen, A., Richards, O., John, K. K., & Strong, B. (2023). Anxiety and physiological responses to virtual reality and audio meditation in racial and ethnic minorities. *Journal of Technology in Behavioral Science*. 10.1007/s41347-023-00330-5

Follow Reference Koohang A. Nord J. H. Ooi K. Tan G. W. Al-Emran M. Aw E. C. Baabdullah A. M. Buhalis D. Cham T. Dennis C. Dutot V. Dwivedi Y. K. Hughes L. Mogaji E. Pandey N. Phau I. Raman R. Sharma A. Sigala M. Wong L. (2023). Shaping the Metaverse into Reality: A Holistic Multidisciplinary Understanding of Opportunities, Challenges, and Avenues for Future Investigation. *Journal of Computer Information Systems*, 63(3), 735–765. 10.1080/08874417.2023.2165197

Follow Reference Korzynski P. Koźmiński A. K. Baczyńska A. (2023). Navigating leadership challenges with technology: Uncovering the potential of ChatGPT, virtual reality, human capital management systems, robotic process automation, and social media. *Przedsiębiorczość Międzynarodowa*, 9(2), 7–18. 10.15678/IER.2023.0902.01

Follow Reference Krueger J. (2022). Affordances and spatial agency in psychopathology. *Taylor and Francis Online*. doi:10.1080/09515089.2023.2243975

Follow Reference Kyi L. Shivakumar S. A. Santos C. Roesner F. Zufall F. Biega A. J. (2023). Investigating Deceptive Design in GDPR's Legitimate Interest. *ACM*. doi:10.1145/3544548.3580637





- Follow Reference Lan L. Sikov J. Lejeune J. Ji C. Brown H. Bullock K. Spencer A. E. (2023). A Systematic Review of using Virtual and Augmented Reality for the Diagnosis and Treatment of Psychotic Disorders. *Current Treatment Options in Psychiatry*, 10(2), 87–107. 10.1007/s40501-023-00287-537360960
- Leite, R. (2023). *The effects of Virtual Reality-Based Mindfulness Meditation on cognition*. STARS. <https://stars.library.ucf.edu/honorstheses/1376/> (<https://stars.library.ucf.edu/honorstheses/1376/>)
- Leite, R. (2023b). *The effects of Virtual Reality-Based Mindfulness Meditation on cognition* [Undergraduate Thesis]. University of Central Florida.
- Follow Reference Levin J. (2023). Being in the present moment: Toward an epidemiology of mindfulness. *Mindfulness*. 10.1007/s12671-023-02179-4
- Follow Reference Li, H., & Chen, H. (2023). Research on immersive virtual reality healing design based on the Five senses Theory. In *Communications in computer and information science* (pp. 99–106). 10.1007/978-3-031-35992-7_14
- Follow Reference Li J. Kwon N. Pham H. Shim R. Leshed G. (2023). Co-designing Magic Machines for Everyday Mindfulness with Practitioners. *ACM*. 10.1145/3563657.3595976
- Follow Reference Li K. De Oliveira Cardoso C. Moctezuma-Ramirez A. Elgalad A. Perin E. C. (2023). (Preprint). Heart Rate Variability Measurement through a Wearable Device. Another Breakthrough for Personal Health Monitoring. doi:10.20944/preprints202308.0732.v1
- Follow Reference Li Y. Cabano F. Li P. (2023). How to attract low prosocial funders in crowdfunding? Matching among funders, project descriptions, and platform types. *Information & Management*, 103840(7), 103840. 10.1016/j.im.2023.103840
- Follow Reference Li Y. Ch'ng E. Cobb S. (2023). Factors influencing engagement in hybrid virtual and augmented reality. *ACM Transactions on Computer-Human Interaction*, 30(4), 1–27. 10.1145/3589952
- Follow Reference Liao Y. Huang T. Lin S. Wu C. Chang K. Hsieh S. Lin S. Goh J. O. S. Yang C. (2023). Mediating role of resilience in the relationships of physical activity and mindful self-awareness with peace of mind among college students. *Scientific Reports*, 13(1), 10386. 10.1038/s41598-023-37416-237369802
- Follow Reference Liedgren J. Desmet P. Gaggioli A. (2023). Liminal design: A conceptual framework and three-step approach for developing technology that delivers transcendence and deeper experiences. *Frontiers in Psychology*, 14, 1043170. 10.3389/fpsyg.2023.104317036844338
- Follow Reference Liu H. Liu S. Li X. Bing-Quan L. (2023). Efficacy of Baduanjin for treatment of fatigue: A systematic review and meta-analysis of randomized controlled trials. *Medicine*, 102(32), e34707. 10.1097/MD.0000000000003470737565842
- Follow Reference Liu, Y., Bitter, J. L., & Spierling, U. (2023). Evaluating interaction challenges of Head-Mounted Device-Based augmented reality applications for First-Time users at museums and exhibitions. In *Lecture Notes in Computer Science* (pp. 150–163). 10.1007/978-3-031-34732-0_11
- Follow Reference Liu Y. Zhang Y. Zhang X. Han F. Zhao Y. (2023). A geographical perspective on the formation of urban nightlife landscape. *Humanities & Social Sciences Communications*, 10(1), 483. 10.1057/s41599-023-01964-9
- Follow Reference Loveys K. Sagar M. Antoni M. Broadbent E. (2023). The impact of virtual humans on psychosomatic medicine. *Psychosomatic Medicine*. 10.1097/PSY.0000000000001227
- Follow Reference Lucas I. Solé-Morata N. Baenas I. Rosinska M. Fernández-Aranda F. Jiménez-Murcia S. (2023). Biofeedback interventions for impulsivity-related processes in addictive disorders. *Current Addiction Reports*, 10(3), 543–552. 10.1007/s40429-023-00499-y
- Follow Reference Ma J. Zhao D. Xu N. Yang J. (2023). The effectiveness of immersive virtual reality (VR) based mindfulness training on improvement mental-health in adults: A narrative systematic review. *Explore (New York, N.Y.)*, 19(3), 310–318. 10.1016/j.explore.2022.08.00136002363
- Follow Reference Malighetti C. Bernardelli L. Pancini E. Riva G. Villani D. (2023). Promoting Emotional and Psychological Well-Being During COVID-19 Pandemic: A Self-Help Virtual Reality intervention for university students. *Cyberpsychology, Behavior, and Social Networking*, 26(4), 309–317. 10.1089/cyber.2022.024636940285
- Follow Reference Malin Y. (2023). Others In Mind: A Systematic Review and Meta-Analysis of the Relationship between Mindfulness and Prosociality. *Mindfulness*, 14(7), 1582–1605. 10.1007/s12671-023-02150-3
- Follow Reference Mazlan I. Abdullah N. Ahmad N. (2023). Exploring the impact of hybrid recommender systems on personalized mental health recommendations. *International Journal of Advanced Computer Science and Applications*, 14(6). 10.14569/IJACSA.2023.0140699
- Follow Reference McCaw C. T. (2023). Contemplative practices and teacher professional becoming. *Educational Review*, 1–29. 10.1080/00131911.2023.2215467
- Follow Reference McEwan K. Krogh K. S. Dunlop K. Khan M. Krogh A. (2023). Virtual Forest Bathing Programming as Experienced by Disabled Adults with Mobility Impairments and/or Low Energy: A Qualitative Study. *Forests*, 14(5), 1033. 10.3390/f14051033
- McMahan, D. L. (2023). *Rethinking meditation: Buddhist Practice in the Ancient and Modern Worlds*. Academic Press.
- Follow Reference Miller N. Stepanova E. R. Desnoyers-Stewart J. Adhikari A. Kitson A. Pennefather P. P. Quesnel D. Brauns K. Friedl-Werner A. Stahn A. Riecke B. E. (2023). Awedyssey: Design Tensions in Eliciting Self-transcendent Emotions in Virtual Reality to Support Mental Well-being and Connection. *ACM*. doi:10.1145/3563657.3595998
- Follow Reference Mirlou F. Beker L. (2023). Wearable Electrochemical Sensors for Healthcare Monitoring: A review of current developments and future Prospects. *IEEE Transactions on Molecular, Biological, and Multi-Scale Communications*, 1(3), 364–373. 10.1109/TMBMC.2023.3304240
- Follow Reference Mishra N. Bharti T. (2023). Exploring the nexus of social support, work–life balance and life satisfaction in hybrid work scenario in learning organizations. *The Learning Organization*. 10.1108/TLO-08-2022-0099
- Follow Reference Mitsea E. Drigas A. Skianis C. (2023). Brain-computer interfaces in digital mindfulness training for metacognitive, emotional and attention regulation skills: A literature review. *Research. Social Development*, 12(3), e2512340247. 10.33448/rsd-v12i3.40247
- Montalto, J. (2023). The Effects Of Mindfulness On Stress Reduction And Academic Performance In Students Studying Health Sciences. *DUNE: DigitalUNE*. https://dune.une.edu/na_capstones/51/ (https://dune.une.edu/na_capstones/51/)

Moyer, M. A. (2023). *Engaging Technologies of the Self with Youth: A Critical Contemplative Pedagogy Action Research Project*.

https://etd.ohiolink.edu/acprod/odb_etd/etd/r/1501/10?clear=10&p10_accession_num=miami1689338623782483 (https://etd.ohiolink.edu/acprod/odb_etd/etd/r/1501/10?clear=10&p10_accession_num=miami1689338623782483)

Follow Reference

Mulders M. (2023). Learning about Victims of Holocaust in Virtual Reality: The Main, Mediating and Moderating Effects of Technology, Instructional Method, Flow Presence, and Prior Knowledge. *Multimodal Technologies and Interaction*, 7(3), 28. 10.3390/mti7030028

Musto, S. (2023). Exploring the uses of yoga nidra: An integrative review. *Nursing and Scholarship*.

<https://sigmapubs.onlinelibrary.wiley.com/doi/abs/10.1111/jnu.12927> (<https://sigmapubs.onlinelibrary.wiley.com/doi/abs/10.1111/jnu.12927>)

Follow Reference

N, S., M, S., G, K., & R, R. (2023). *Securing the Cloud: An empirical study on best practices for ensuring data privacy and protection*. 10.31033/ijemr.13.2.6

Nagarajan, G. (2023, July 15). *The Role Of The Metaverse In Digital Marketing*. Universidad De Granada. <https://digibug.ugr.es/handle/10481/84077> (<https://digibug.ugr.es/handle/10481/84077>)

Follow Reference

Nee A. Y. C. Ong S. K. (2023). *Springer Handbook of Augmented Reality*. Springer Nature. 10.1007/978-3-030-67822-7

Follow Reference

O'Hagan J. Saeghe P. Gugenheimer J. Medeiros D. Marky K. Khamis M. McGill M. (2022). Privacy-Enhancing technology and everyday augmented reality. *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies*, 6(4), 1–35. 10.1145/3569501

Follow Reference

Omranian S. Zolnoori M. Huang M. Campos-Castillo C. McRoy S. (2023). Predicting patient satisfaction with medications for treating opioid use Disorder: Case study Applying natural language processing to reviews of methadone and Buprenorphine/Naloxone on Health-Related Social media. *JMIR Infodemiology*, 3, e37207. 10.2196/3720737113381

Follow Reference

Ortet, C. P., Vairinhos, M., Veloso, A. I., & Costa, L. V. (2023). Virtual Reality Hippotherapy Simulator: A model proposal for Senior citizens. In *Lecture Notes in Computer Science* (pp. 592–609). 10.1007/978-3-031-34866-2_42

Follow Reference

Pal R. Adhikari D. Heyat M. B. B. Ullah I. You Z. (2023). Yoga meets intelligent Internet of Things: Recent challenges and future directions. *Bioengineering* (Basel, Switzerland), 10(4), 459. 10.3390/bioengineering1004045937106646

Follow Reference

Pancini E. Di Natale A. F. Villani D. (2023). *Breathing in virtual Reality for Promoting Mental Health: A scoping review*. Research Square. Research Square. 10.21203/rs.3.rs-3230685/v1

Follow Reference

Pardini S. Gabrielli S. Olivetto S. Fusina F. Dianti M. Forti S. Lancini C. Novara C. (2023). Personalized, naturalistic virtual reality scenarios coupled with Web-Based progressive muscle relaxation training for the general population: Protocol for a Proof-of-Principle randomized controlled trial. *JMIR Research Protocols*, 12, e44183. 10.2196/4418337067881

Follow Reference

Park M. Song R. Ju K. Shin J. C. Seo J. Fan X. Gao X. Ryu A. Li Y. (2023). Effects of Tai Chi and Qigong on cognitive and physical functions in older adults: Systematic review, meta-analysis, and meta-regression of randomized clinical trials. *BMC Geriatrics*, 23(1), 352. 10.1186/s12877-023-04070-237280512

Follow Reference

Pascual K. J. Fredman A. Naum A. Patil C. Sikka N. (2022). Should mindfulness for health care workers go virtual? A Mindfulness-Based intervention using virtual reality and heart rate variability in the emergency department. *AAOHN Journal*, 71(4), 188–194. 10.1177/2165079922112325836377263

Follow Reference

Piçarra M. Rodrigues A. Guerreiro J. (2023). Evaluating Accessible Navigation for Blind People in Virtual Environments. *ACM*. 10.1145/3544549.3585813

Follow Reference

Pira G. L. Aquilini B. Davoli A. Grandi S. Ruini C. (2023). The Use of Virtual Reality Interventions to Promote Positive Mental Health: Systematic Literature review. *JMIR Mental Health*, 10, e44998. 10.2196/4499837410520

Follow Reference

Ponce, P., Pfeffer, T., Garduno, J. I. M., Eicker, U., Molina, A., McDaniel, T., Mimo, E. D. M., Menon, R. P., Kaspar, K., & Hussain, S. (2023). Smart communities and cities as a unified concept. In *Studies in big data* (pp. 125–168). 10.1007/978-3-031-32828-2_5

Follow Reference

Prasath P. R. Xiong Y. Zhang Q. (2023). A practical guide to planning, implementing, and evaluating the mindfulness-based well-being group for international students. *The Journal of Humanistic Counseling*, johc.12200. 10.1002/johc.12200

Follow Reference

Pratviel Y. Bouny P. Deschodt-Arsac V. (2023). Immersion in a relaxing virtual reality environment is associated with similar effects on stress and anxiety as heart rate variability biofeedback. *Research Square*. 10.21203/rs.3.rs-3221200/v1

Follow Reference

Priest S. (2023). Predicting the future of experiential and adventurous learning in the metaverse. *Journal of Adventure Education and Outdoor Learning*, 1–14. 10.1080/14729679.2023.2220835

Purwar, S. (2021, December 8). Designing User Experience for Virtual Reality (VR) applications. *Medium*. <https://uxplanet.org/designing-user-experience-for-virtual-reality-vr-applications-fc8e4faadd96> (<https://uxplanet.org/designing-user-experience-for-virtual-reality-vr-applications-fc8e4faadd96>)

Qureshi, I. (2023, July 10). *Can Music And Artificial Intelligence Influence Customer Behavior In-Store?* RC. <https://rc.library.uta.edu/uta-ir/handle/10106/31524> (<https://rc.library.uta.edu/uta-ir/handle/10106/31524>)

Follow Reference

Randazzo G. Reitano G. Carletti F. Iafrate M. Betto G. Novara G. Moro F. D. Zattoni F. (2023). Urology: A trip into metaverse. *World Journal of Urology*, 41(10), 2647–2657. 10.1007/s00345-023-04560-337552265

Follow Reference

Räsänen P. Muotka J. Lappalainen R. (2023). Examining coaches' asynchronous written feedback in two blended ACT-based interventions for enhancing university students' wellbeing and reducing psychological distress: A randomized study. *Journal of Contextual Behavioral Science*, 29, 98–108. 10.1016/j.jcbs.2023.06.006

Follow Reference

Ray P. P. (2023). ChatGPT: A comprehensive review on background, applications, key challenges, bias, ethics, limitations and future scope. *Internet of Things and Cyber-physical Systems*, 3, 121–154. 10.1016/j.iotcps.2023.04.003

Redirect notice. (n.d.). https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.shutterstock.com%2Fvideo%2Fsearch%2Fvr-meditation&psig=AOvVaw1lDxksdO4j_cUe7TWIDomo&ust=1692327355095000&source=images&cd=vfe&opi=89978449&ved=0CBiQjhxqFwoTCPDmqenY4oADFQ (https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.shutterstock.com%2Fvideo%2Fsearch%2Fvr-meditation&psig=AOvVaw1lDxksdO4j_cUe7TWIDomo&ust=1692327355095000&source=images&cd=vfe&opi=89978449&ved=0CBiQjhxqFwoTCPDmqenY4oADFQ)

Follow Reference Ren C. (2023). Question the nature of reality through virtual reality Portals of Perception - ProQuest. New York University Tandon School of Engineering.

Follow Reference Riches S. Jeyarajaguru P. Taylor L. Fialho C. Little J. R. Ahmed L. O'Brien A. Van Driel C. Veling W. Valmaggia L. (2023). Virtual reality relaxation for people with mental health conditions: A systematic review. *Social Psychiatry and Psychiatric Epidemiology*, 58(7), 989–1007. 10.1007/s00127-022-02417-536658261

Follow Reference Riches S. Taylor L. Jeyarajaguru P. Veling W. Valmaggia L. (2023). Virtual reality and immersive technologies to promote workplace wellbeing: A systematic review. *Journal of Mental Health* (Abingdon, England), 1–21. 10.1080/09638237.2023.218242836919828

Follow Reference Richter S. Richter A. (2023). What is novel about the Metaverse? *International Journal of Information Management*, 73, 102684. 10.1016/j.ijinfomgt.2023.102684

Follow Reference Rieger K. L. Hack T. F. Duff M. A. Campbell-Enns H. West C. H. (2023). Integrating mindfulness and the expressive arts for meaning making in cancer care: A grounded theory of the processes, facilitators, and challenges. *Supportive Care in Cancer*, 31(8), 475. 10.1007/s00520-023-07909-x37466723

Follow Reference Robison J. Walter T. Godsey J. A. Robinson J. (2023). Chairside yoga therapy alleviates symptoms in patients concurrently receiving outpatient cancer infusions: A Promising Feasibility study. *Journal of Holistic Nursing*. 10.1177/0898010123117048237128683

Follow Reference Rodriguez S. D. Rivu R. Mäkelä V. Alt F. (2023). Challenges in Virtual Reality Studies: Ethics and Internal and External Validity. *ACM*. 10.1145/3582700.3582716

Follow Reference Rolbiecki A. J. Govindarajan A. Froeliger B. (2023). Immersive virtual reality and neurofeedback for the management of cancer symptoms during treatment. *Supportive Care in Cancer*, 31(8), 493. 10.1007/s00520-023-07957-337493785

Follow Reference Rosenberg, L. (2023). The Metaverse and Conversational AI as a Threat Vector for Targeted Influence. In *2023 IEEE 13th Annual Computing and Communication Workshop and Conference (CCWC)*. IEEE. 10.1109/ccwc57344.2023.10099167

Follow Reference Roy B. L. Martin-Krumm C. Troussellard M. (2023). Mindfulness for adaptation to analog and new technologies emergence for long-term space missions. *Frontiers in Space Technologies*, 4. doi:10.3389/frspt.2023.1109556

Follow Reference Ruan H. Pocock I. Ruan H. (2023). “You just have to stick with the practice”: A Long-Term weekly mindfulness group at the VA. *Group*, 47(1–2), 91–114. 10.1353/grp.2023.0008

Follow Reference Samarin N. Kothari S. Siyed Z. Bjorkman O. Yuan R. Wijesekera P. Alomar N. Fischer J. Hoofnagle C. J. Egelman S. (2023). Lessons in VCR Repair: Compliance of Android App Developers with the California Consumer Privacy Act (CCPA). *Cornell University*. 10.48550/arxiv.2304.00944

Follow Reference Sanku, B. S., Li, Y. J., & He, J. (2023). A Survey of VR-Based Neurofeedback Systems in Physiological Computing for Depression Treatment. *2023 9th International Conference on Virtual Reality (ICVR)*. 10.1109/icvr57957.2023.10169583

Follow Reference Sarasalin P. (2023). Atmosphere of Place: A case study of a contemporary tropical home. *The International Journal of Design in Society*, 17(1), 45–78. 10.18848/2325-1328/CGP/v17i01/45-78

Follow Reference Schlüssel H. Frosh P. (2023). The taste of video: Facebook videos as multi-sensory experiences. *Convergence*, 29(4), 980–996. 10.1177/13548565231179958

Follow Reference Schwartz K. Ganster F. M. Tran U. S. (2022). Mindfulness-Based Mobile Applications and their Impact on Well-Being in Non-Clinical Populations: A Systematic Review of Randomized Controlled Trials (Preprint). *Journal of Medical Internet Research*. 10.2196/4463837540550

Follow Reference Seetharaman R. Avhad S. Rane J. (2023). Exploring the healing power of singing bowls: An overview of key findings and potential benefits. *Elsevier*. 10.1016/j.explore.2023.07.007

Follow Reference Shafiq D. A. Jhanjhi N. Z. Abdullah A. (2021). Machine Learning Approaches for Load Balancing in Cloud Computing Services. *2021 National Computing Colleges Conference (NCCC)*. 10.1109/NCCC49330.2021.9428825

Follow Reference Shannon L. (2023). *Interconnected realities: How the Metaverse Will Transform Our Relationship with Technology Forever*. John Wiley & Sons.

Sharmin, S. (2023, July 25). *Insights into Cognitive Engagement: Comparing the Effectiveness of Game-Based and Video-Based Learning*. <https://arxiv.org/abs/2307.13637> (<https://arxiv.org/abs/2307.13637>)

Follow Reference She Y. Wang Q. Liu F. Lin L. Yang B. Hu B. (2023). An interaction design model for virtual reality mindfulness meditation using imagery-based transformation and positive feedback. *Computer Animation and Virtual Worlds*, 34(3-4), e2184. 10.1002/cav.2184

Follow Reference Singh A. Sharma S. Singh A. Unanoglu M. Taneja S. (2023). Cultural marketing and metaverse for consumer engagement. *IGI Global*. 10.4018/978-1-6684-8312-1

Follow Reference Singh K. Saxena G. (2023). Religious and spiritual practices in India: A Positive Psychological Perspective. *Springer Nature*. 10.1007/978-981-99-2397-7

Follow Reference Singhal V. Jain S. P. Anand D. Singh A. Verma S. Kavita Rodrigues J. J. P. C. Jhanjhi N. Z. Ghosh U. Jo O. Iwendi C. (2020). Artificial Intelligence Enabled Road Vehicle-Train Collision Risk Assessment Framework for Unmanned railway level crossings. *IEEE Access : Practical Innovations, Open Solutions*, 8, 113790–113806. 10.1109/ACCESS.2020.3002416

Follow Reference Siwik C. Adler S. R. Moran P. J. Kuyken W. Segal Z. V. Felder J. N. Eisendrath S. J. Hecht F. M. (2023). Preventing Depression Relapse: A Qualitative Study on the Need for Additional Structured Support Following Mindfulness-Based Cognitive Therapy. *UCSF*, 12. 10.1177/2753613022114424737077178

Follow Reference Slivjak, E., Kirk, A., & Arch, J. J. (2023). The Psychophysiology of Self-Compassion. In *Springer eBooks* (pp. 291–307). Springer. 10.1007/978-3-031-22348-8_17

Follow Reference Snodgrass J. G. (2023). *The Avatar faculty: Ecstatic Transformations in Religion and Video Games*. Univ of California Press.

Follow Reference Soni L. Kaur A. (2023). Strategies for Implementing Metaverse in Education. In *2023 International Conference on Disruptive Technologies (ICDT)*. IEEE. 10.1109/ICDT57929.2023.10150886

Follow Reference Steinhoff L. Martin K. D. (2022). Putting Data Privacy Regulation into Action: The Differential Capabilities of Service Frontline Interfaces. *Journal of Service Research*, 26(3), 330–350. 10.1177/10946705221141925

Follow Reference Stockly K. J. Wildman W. J. (2022). Interpreting the rapidly changing landscape of spirit tech. *Religion, Brain & Behavior*, 13(1), 109–118. 10.1080/2153599X.2022.2091010





- Follow Reference Suh I. H. McKinney T. Siu K. (2023). Current Perspective of Metaverse Application in Medical Education, Research and Patient Care.MDPI, 2(2), 115–128. 10.3390/virtualworlds2020007
- Follow Reference Sullivan M. Huberty J. Chung Y. Stecher C. (2023). Mindfulness meditation app Abandonment during the COVID-19 Pandemic: An observational study.Mindfulness, 14(6), 1504–1521. 10.1007/s12671-023-02125-437362188
- Follow Reference Sun T. Jin T. Huang Y. Meng L. Yun W. Jiang Z. Fu X. (2023). Restoring Dunhuang Murals: Crafting Cultural Heritage Preservation Knowledge into Immersive Virtual Reality Experience Design.International Journal of Human-Computer Interaction, 1–22. 10.1080/10447318.2023.2232976
- Follow Reference Tai B. Tsou Y. Li S. Huang Y. Tsai P. Tsai Y. (2023). User-Driven Synthetic Dataset Generation with Quantifiable Differential Privacy.IEEE Transactions on Services Computing, 16(5), 1–14. 10.1109/TSC.2023.3287239
- Follow Reference Tan F. F. Ram A. Haigh C. Zhao S. (2023). Mindful Moments: Exploring On-the-go Mindfulness Practice On Smart-glasses. ACM. 10.1145/3563657.3596030
- Follow Reference Tayyab M. Marjani M. Jhanjhi N. Z. Hashem I. T. Usmani R. S. A. Qamar F. (2023). A comprehensive review on deep learning algorithms: Security and privacy issues.Computers & Security, 131, 103297. 10.1016/j.cose.2023.103297
- Follow Reference Tekin B. H. Gutiérrez R. U. (2023). Human-centred health-care environments: A new framework for biophilic design.Frontiers in Medical Technology, 5, 1219897. 10.3389/fmedt.2023.121989737560462
- Follow Reference Toussaint L. Huynh K. Kohls N. Sirois F. M. Alberts H. Hirsch J. K. Hanshans C. Nguyen Q. Van Der Zee-Neuen A. Offenbaecher M. (2023). Expectations regarding Gastein Healing Gallery treatment and their connection to Health-Related quality of life.International Journal of Environmental Research and Public Health, 20(7), 5426. 10.3390/ijerph2007542637048040
- Follow Reference Turdialiev, M. (2023). *Legal discussion of metaverse Law*. doi:10.59022/ijcl.36
- Follow Reference Uddin M. Manickam S. Ullah H. Obaidat M. Dandoush A. (2023). Unveiling the metaverse: Exploring emerging trends, multifaceted perspectives, and future challenges.IEEE Access : Practical Innovations, Open Solutions, 1, 87087–87103. 10.1109/ACCESS.2023.3281303
- Follow Reference Üstün A. Yılmaz R. Yılmaz F. G. K. (2022). Educational UTAUT-based virtual reality acceptance scale: A validity and reliability study.Virtual Reality (Waltham Cross), 27(2), 1063–1076. 10.1007/s10055-022-00717-4
- Follow Reference Veber M. Pesek I. Aberšek B. (2023). Assessment of supporting visual learning technologies in the Immersive VET Cyber-Physical Learning Model.Education in Science, 13(6), 608. 10.3390/educsci13060608
- Follow Reference Velissaris S. L. Davis M. Fisher F. Gluyas C. Stout J. C. (2023). A pilot evaluation of an 8-week mindfulness-based stress reduction program for people with pre-symptomatic Huntington's disease.Journal of Community Genetics, 14(4), 395–405. 10.1007/s12687-023-00651-137458974
- Follow Reference Villalón F. Moreno M. I. B. Rivera R. M. Venegas W. G. JVC, N., Soto-Mota, A., & Pemjean, A. (2023). Brief Online Mindfulness- and Compassion-Based Inter-Care Program for Students during COVID-19 Pandemic: A randomized controlled trial. Mindfulness. 10.1007/s12671-023-02159-8
- Follow Reference Wang Y. Weng T. Tsai I. F. Kao J. Chang Y. J. (2022). Effects of virtual reality on creativity performance and perceived immersion: A study of brain waves.British Journal of Educational Technology, 54(2), 581–602. 10.1111/bjet.13264
- Follow Reference Weisbrod A. V. Bohman L. Ramdial K. J. (2023). From theory to practice: A novel meditation program at a global corporation.Current Psychology (New Brunswick, N.J.).10.1007/s12144-023-04516-137359588
- Follow Reference Wexler T. M. Schellinger J. (2022). Mindfulness-Based Stress Reduction for Nurses: An Integrative Review.Journal of Holistic Nursing. 10.1177/0898010122107947235213264
- Follow Reference Whiting A. Sharma Y. Grewal M. K. Ghulam Z. Sajid W. Dewan N. Peladeau-Pigeon M. Dutta T. (2023). Virtual Accessible Bilingual conference planning: The Parks Accessibility Conference.International Journal of Environmental Research and Public Health, 20(3), 2302. 10.3390/ijerph2003230236767670
- Follow Reference Williams R. (2023). Think piece: Ethics for the virtual researcher.Practice, 5(1), 1–7. 10.1080/25783858.2023.2179893
- Follow Reference Wong I. A. Lu M. V. Lin S. K. Lin Z. (2022). The transformative virtual experience paradigm: The case of Airbnb's online experience.International Journal of Contemporary Hospitality Management. 10.1108/ijchm-12-2021-1554
- Follow Reference Wu J. Tang J. Agyeiwaah E. (2023). 'I had more time to listen to my inner voice': Zen meditation tourism for Generation Z.Tourist Studies. 10.1177/14687976231189833
- Follow Reference Wu, Y. C., Maymon, C., Paden, J., & Liu, W. (2023). Launching your VR Neuroscience Laboratory. In *Current topics in behavioral neurosciences*. 10.1007/7854_2023_420
- Follow Reference Yin C. Huang Y. Kim D. Kim K. (2023). The Effect of Esports Content Attributes on Viewing Flow and Well-Being: A focus on the moderating effect of esports involvement.Sustainability, 15(16), 12207. 10.3390/su151612207
- Follow Reference You Y. Youn C. T. (2023). Research on the happiness experience structure of elderly people in metaverse.Han'gug Di'jain Munhwa Haghojeji, 29(2), 339–353. 10.18208/ksdc.2023.29.2.339
- Follow Reference Yue Y. Yi S. Nan X. Leo Y.-H. L. Shigyo K. Liwenhan X. Wicaksana J. Cheng K.-T. (2023). FoodWise: Food Waste Reduction and Behavior Change on Campus with Data Visualization and Gamification. In Proceedings of the 6th ACM SIGCAS/SIGCHI Conference on Computing and Sustainable Societies. ACM. 10.1145/3588001.3609364
- Follow Reference Zainab H. E. Bawany N. Z. Rehman W. Imran J. (2023). Design and development of virtual reality exposure therapy systems: Requirements, challenges and solutions.Multimedia Tools and Applications. 10.1007/s11042-023-15756-5
- Follow Reference Zaman N. Gaur L. Humayun M. (2022). Approaches and applications of deep learning in virtual medical care. IGI Global. 10.4018/978-1-7998-8929-8

Zhang, J. (2023). *Exploring gender expression and identity in virtual reality : The interplay of avatars, role-adoption, and social interaction in VRChat*. DIVA. <https://www.diva-portal.org/smash/record.jsf?pid=diva2%3A1765332&dswid=-4051> (<https://www.diva-portal.org/smash/record.jsf?pid=diva2%3A1765332&dswid=-4051>)

Follow Reference

Zhi, L. J., Heng, T. M., & Taojun, X. (2023). Evaluating the impact of digital economy collaborations in ASEAN. In *Routledge eBooks* (pp. 8–27). 10.4324/9781003308751-2



Request Access

You do not own this content. Please login to recommend this title to your institution's librarian or purchase it from the IGI Global bookstore (/chapter/metaverse/334347).

Username or email:

Password:

[Log In >](#)

[Forgot individual login password?](/gateway/login/reset-password/)

[Create individual account](/gateway/login/create-account/)

Research Tools

[Database Search](/gateway/) | [Help](/gateway/help/) | [User Guide](/gateway/user-guide/) | [Advisory Board](/gateway/advisory-board/)

User Resources

[Librarians](/gateway/librarians/) | [Researchers](/gateway/researchers/) | [Authors](/gateway/authors/)

Librarian Tools

[COUNTER Reports](/gateway/librarian-tools/counter-reports/) | [Persistent URLs](/gateway/librarian-tools/persistent-urls/) | [MARC Records](/gateway/librarian-tools/marc-records/) | [Institution Holdings](/gateway/librarian-tools/institution-holdings/) | [Institution Settings](/gateway/librarian-tools/institution-settings/)

Librarian Resources

[Training](/gateway/librarian-corner/training/) | [Title Lists](/gateway/librarian-corner/title-lists/) | [Licensing and Consortium Information](/gateway/librarian-corner/licensing-and-consortium-information/) | [Promotions](/gateway/librarian-corner/promotions/)

Policies

[Terms and Conditions](/gateway/terms-and-conditions/)

([http://www.facebook.com/pages/IGI-](http://www.facebook.com/pages/IGI-Global/138206739534176?ref=sgm)

[Global/138206739534176?ref=sgm](http://www.facebook.com/pages/IGI-Global/138206739534176?ref=sgm))

(<http://twitter.com/igiglobal>)

(<https://www.linkedin.com/company/igiglobal>)

Proud Supporter
of WFCF



[Learn More](#)

(<http://www.world-forgotten-children.org>)

(<https://publicationethics.org/category/publisher/igi-global>)

Copyright © 1988-2024, IGI Global - All Rights Reserved